

Notice of Allowability

Application No.

09/978,043

Examiner

Johannes P Mondt

Applicant(s)

GUDESEN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/13/2004.
2. ☒ The allowed claim(s) is/are 10-22.
3. ☒ The drawings filed on 17 October 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/381,994.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 10/17/01
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

DETAILED ACTION

Response to Amendment

Amendment filed 1/13/04 forms the basis of this Office Action. In said Amendment Applicant amended claims 10, 11, 15, 16, 18, 19, and thereby all outstanding claims 10-22 either directly or indirectly.

Information Disclosure Statement

The examiner thanks Applicant for sending the article by Hua et al that is listed on the Information Disclosure Statement of 10/17/01. Please find an updated and completed signed copy of Form PTO-1449 enclosed herewith.

Response to Arguments

The objection to claim 11 has been withdrawn in view of aforementioned Amendment.

The objection to claims 11 and 15 has been withdrawn in view of aforementioned Amendment.

Applicant's arguments, see pages 10-11 (where the concept of line or line-like structure (page 11, line 11) and point or point-like structure (page 11, line 15) are shown to be enabled within the context of the Specification), with respect to the rejection under 35 USC 112, first paragraph have been fully considered and are persuasive. Therefore, the rejections of claims 10, 16 and 18 and claims dependent thereon under 35 USC 112, first paragraph, have been withdrawn.

Applicant's arguments, see pages 12, with respect to the rejection under 35 USC 112, first paragraph have been fully considered and are persuasive in view of the

current amendment. Therefore, the rejections of claims 11-15 and 17-22 under 35 USC 112, second paragraph, have been withdrawn.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment is being requested (cf. telephone interview with Attorney C. Billings on 3/18/04). The application has been amended as follows:

BEGIN EXAMINER'S AMENDMENT

Claim 10:

line 2: the wording "electrically conducting and /or semiconducting structures" has been replaced by "electrically conducting structures, semiconducting structures or both electrically conducting structures and semiconducting structures".

line 6: the wording "physical and/or chemical changes of state" has been replaced by "physical changes of state, chemical changes of state, or both physical changes of state and chemical changes of state".

line 26: the wording "electrically conducting and /or semiconducting structures" has been replaced by "electrically conducting structures, electrically

semiconducting structures or both electrically conducting structures and electrically semiconducting structures”.

line 28: the wording “by means of point, line and / or area potentials” has been replaced by “by means of potentials that are created by at least one selected parallel strip electrode of the first electrode means or the second electrode means”.

Claim 16:

lines 1-2: the wording “electrically conducting, semiconducting and /or non-conducting structures” has been replaced by “electrically conducting structures, semiconducting structures, non-conducting structures or a combination of electrically conducting structures, semiconducting structures and non-conducting structures”.

lines 5-6: the wording “physical and/or chemical changes of state” has been replaced by “physical changes of state, chemical changes of state, or both physical and chemical changes of state”.

line 7: the wording “electrically conducting and /or semiconducting state” has been replaced by “electrically conducting state, semiconducting state or both”.

lines 23-24: the wording “electrically conducting, semiconducting and / or non-conducting structures” has been replaced by “electrically conducting structures, semiconducting structures, electrically non-conducting structures, or a combination of electrically conducting structures, semiconducting structures and electrically non-conducting structures”.

lines 24-25: the wording "by means of point, line and / or area potentials" has been replaced by "by means of potentials that are created by at least one selected parallel strip electrode of the first electrode means or the second electrode means".

Claim 22:

line 2: the wording "each separate material layer" has been replaced by "each said thin layer".

END OF EXAMINER'S AMENDMENT

Allowable Subject Matter

1. **Claims 10-22** are allowed. The following is an examiner's statement of reasons for allowance:

Closely related art are (a) Nathan et al (5,572,409), (b) Mutsaers et al (6,429,450) (which has an intermediate date), (c) Nathan et al (5,537,108) and (d) Zavracki et al (5,656,548), however only Wei et al (5,703,394) comes close to teach the structure of the apparatus of claims 16 and of the structure of the electric field generator / modulator of claim 10.

However, Wei et al do not teach the claimed material response of a physical or chemical *change of state* or both as imparted on the material 16 (cf. Figures 2 and 4, and col. 4, lines 10-63): the change imparted by the apparatus taught by Wei et al is one of a transition between a forward biased and a reverse biased but *invariably semiconducting state*. Wei et al do not teach claim 10 at least because 15 does touch

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the electrode means 14/16 (15 has been deposited on 14 (cf. col. 4, l. 26-35)), and does so by dint of the structure of a light-emitting device.

The apparatus as claimed, i.e., the electric field generator / modulator of claims 10-15 and the apparatus of claims 16-22 have not been found within the context of the method of making a semiconductor structure through the application of an electric field whereby the conductive state of material in response to said application changes in the sense of a physical change of state or chemical change of state or both.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P Mondt whose telephone number is 571-272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
March 15, 2004